

REMARKS

Reconsideration of this application, as amended, is respectfully requested. The foregoing amendments obviate the objections to the Specification set forth in the Office Action. The claims of this application are patentable over the cited combinations of references for at least the reasons discussed below.

1. The Claims are Patentable Over Park and He Because The Office Action has Failed to Establish a Proper Prima Facie Case of Obviousness.

Claims 1-5, 17, 20-29 and 35-39 have been rejected under 35 USC 103 as being obvious in view of Park et al., U.S. Patent 6,535,632, when considered in combination with He et al., U.S. Patent 6,600,517. To establish a prima facie case of obviousness, however, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references, when combined, must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). In the present case, there has been no showing of the required motivation for the suggested combination, nor has there been any showing of a reasonable expectation of success. Consequently, the conclusion of obviousness is fatally flawed and the rejections should be removed.

Among other things, the Office Action concedes that Park fails to teach or suggest calculating a center of mass for each of the pixels of the gradient image as recited in claims 1 and 37, and generating an enhanced image by modifying intensity values of pixels of the matrix of pixels that are located in a vicinity of local centers of mass in response to intensity values of pixels that are further displaced from the local centers of mass as recited in claims 1, 26 and 39. In an attempt to cure these deficiencies, the Office Action cites He and suggests that it would

have been obvious to one of ordinary skill in the art to combine the teachings of these references. This conclusion finds no support in the references, however. Indeed, the Office Action cites no motivation for such a combination, other than a general desire to provide an improved imaging system. See Office Action p. 4, ll. 1-3. This rote invocation of a general desire to make existing technologies better is an insufficient basis for reaching a conclusion of obviousness. Instead, what is needed is an actual showing of motivation to make the desired combination.

In this case, each of the references themselves provides what appears to be a complete solution for image enhancement. Neither of the references suggests that additional processing steps are needed to improve image quality beyond the techniques disclosed therein. For example, according to Park his image enhancement techniques provide for preservation of object boundaries while significantly reducing noise levels. Park at col. 3, ll. 19-24. For his part, He indicates that his techniques provide an apparatus for sharpening an edge in a video image. He at col. 2, ll. 32-34. Nothing in these disclosures would suggest that any combination of these processes is desirable, consequently there exists no motivation for the recited combination.

In addition, there has been no showing that one would (or even could) expect success in combining the teachings of the references. Park is concerned with processing of HSI data. HSI refers to the Hue, Saturation, Intensity color model for presenting color data. Park at col. 1, ll. 38-42. In this model, there are no values representing luminance data. Indeed, the intensity value represents a decoupling of luminance information from color information. Park at col. 1, ll. 48-56. He, on the other hand, is concerned with the processing of luminance values through a luminance transient improvement (LTI) algorithm. He at col. 5, ll. 24-27. Nothing in the references (nor in the Office Action) suggests how this technique could be adapted to operate in an environment, such as that described by Park, where no luminance information is present. Consequently, there has been no showing of an expectation of success resulting from the combination of these references.

Rather than making out a proper prima facie case of obviousness then, it appears the teachings of the present application have been used as a blueprint to gather together and assemble various components of the prior art in the manner contemplated by the present applicants. This is a classic example of the use of hindsight reconstruction, and cannot properly be used as grounds for rejecting the present claims. Indeed, the U.S. Court of Appeals for the Federal Circuit has rejected such applications of hindsight by specifically indicating that when an obviousness rejection is made based upon a combination of references, an examiner "must show reasons that the skilled artisan, confronted with the same problems as the inventor *and with no knowledge of the claimed invention*, would select the elements from the cited prior art references for combination in the manner claimed." *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) (emphasis added). Merely indicating, as in the present Office Action, that the claimed invention would be obvious to one of ordinary skill in the art based on the combination of the references is inadequate. *Id.*

As demonstrated above, the present Office Action deconstructs the subject matter of the claims into its constituent components, states where each such component may be found in one of the cited references, and then concludes that it would have been obvious to combine the references to arrive at the claimed invention. This bare bones analysis is not sufficient to support the present rejections. The burden is on the Examiner to show *why* one would be so motivated as to come up with the combination. *Rouffet* at 1357-1358 ("If such a rote invocation could suffice to supply a motivation to combine, the more sophisticated scientific fields would rarely, if ever, experience a patentable technical advance. Instead, in complex scientific fields the [Patent Office] could routinely identify the prior art elements in an application, invoke the lofty level of skill, and rest its case for rejection. To counter this potential weakness in the obviousness construct, the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.") Accordingly, the present rejections should be removed.

2. The Claims are Patentable Over Park, He and Acharya Because The Office Action has Failed to Establish a Proper Prima Facie Case of Obviousness.

Claims 6-9, 13-16, 18, 19, 30, 31 and 34 were rejected as being obvious in view of Park and He and further in view of Acharya, U.S. patent 6,094,508. These rejections rely on the combination of the Park and he references discussed above. However, because the combination of Park and He is flawed for at least the reasons given above, the rejections of these claims is likewise improper.

Moreover, like He, Acharya relies on the use of intensity information. See, e.g., col. 13, ll. 8. There has been no showing that such a system could be adapted for use in an environment, such as that described by Park, where no luminance information is present. Consequently, there has been no showing of an expectation of success resulting from the combination of these references. Consequently, the conclusion of obviousness is flawed.

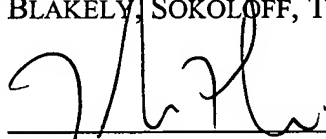
3. Because the Conclusions of Obviousness have been Overcome, the Present Claims Should be Found Allowable.

In light of the above, the rejections under 35 U.S.C. § 103 have been overcome, and withdrawal of these rejections is therefore respectfully requested. If there are any additional fees associated with this communication, please charge Deposit Account No. 02-2666.

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